



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,563	11/21/2003	Gerhard Hammer	2454.1108	8456
21171	7590	07/10/2009		
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			EXAMINER BARQADLE, YASIN M	
			ART UNIT 2456	PAPER NUMBER
			MAIL DATE 07/10/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/717,563	Applicant(s) HAMMER ET AL.	
	Examiner YASIN M. BARQADLE	Art Unit 2456	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08/08/2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2456

Response to Amendment

1. The amendment filed on August 8, 2008 has been fully considered but are moot in view of the new ground(s) of rejection.

Note: the non-compliant action is of November 14, 2008 is vacated.

- Claims 1-17 are presented for examination.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1 and 7-8 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. "The base stations simultaneously process received data (claim 7) and base station simultaneously process the test cycles of a given maximum duration (claims 1

Art Unit: 2456

and 8). In paragraph 0008 of the published application recites " the base stations process received data simultaneously at predefined maximum time intervals having a given maximum duration", however the specification does not describe how the received data is processed simultaneously at predefined maximum time intervals having a given maximum duration and where the data is received from. Furthermore, the specification does not describe what is the "predefined maximum time intervals having a given maximum duration".

Claim 16 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

"Wherein the equidistant cycle comprises a time interval in which real-time critical data are transmitted and a time interval in which non real-time critical data are transmitted, and wherein the programmable controller inserts the test cycle into the non real-time critical data interval." The specification does not describe nor seem to enable an equidistant cycle comprising a time interval in which real-time critical data are transmitted and a time interval in which non real-time critical data are transmitted, and wherein the programmable controller inserts the test cycle into the non real-time critical data interval."

Art Unit: 2456

There are simply no time-critical and non real-time critical data or data intervals that are described in the specification as originally filed.

Claim 16 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. “Wherein the equidistant cycle comprises a time interval in which real-time critical data are transmitted and a time interval in which non real-time critical data are transmitted, and wherein the programmable controller inserts the test cycle into the non real-time critical data interval.” The specification does not describe how the above limitation is performed, particularly how the equidistant cycle comprises a time interval in which real-time critical data are transmitted and a time interval in which non real-time critical data are transmitted, and wherein the programmable controller inserts the test cycle into the non real-time critical data interval.”

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject

Art Unit: 2456

matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8, 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trompower et al US Patent Number (6088591) in view of Fischel et al USPN (20020009134), hereinafter "Fischel".

As per claims 1, 7 and 10, Trompower teaches method and a user device operable to communicate with various base stations within a communication network for operating a network that includes wireless data transmission between a plurality of users, the network having at least two radio cells which at least partly overlap and in which different channels are used for data transmission, and each radio cell having at least one base station (see fig. 3, cells 162, base stations 154 and 156 connected to medium 152), the method comprising:

interconnecting the base stations of the at least two radio cells, respectively, via at least one common communication channel (see fig. 3, cells 162, base stations 154 and 156 connected to medium 152);

at predefined maximum time intervals, the base stations in respective radio cells transmit test signal during test cycles and process the test cycles of a given maximum duration, (col. 15, lines 60-67 to col. 16, line 5); and

determining, within each respective radio-coupled user and based on the test signals, the communication channel with optimum transmission properties

Art Unit: 2456

for that radio-coupled user (col. 15, lines 60-67 to col. 16, line 5 and col. 34, lines 17-43).

Although Trompower shows substantial features of the claimed invention including base stations (f154 and 156, fig. 3) transmitting test pattern signal, Trompower does not explicitly show where the test signals are transmitted simultaneously.

Nonetheless, this feature is well known in the art and would have been an obvious modification of the system disclosed by Trompower, as evidenced by Fischel USPN. (20020009134).

In analogous art, Fischel whose invention is about a **system for testing wireless communication channels** discloses transmitting test signal concurrently (simultaneously) (§ 0011 and 0014). Giving the teaching of Fischel, a person of ordinary skill in the art would have readily recognized the desirability and the advantage of modifying Trompower by employing the concurrent testing of multiple traffic channels of Fischel in order to select the best communication channel that provides the best system performance.

As per claim 2, Trompower teaches the method as claimed in claim 1, wherein at least one user initiates the test cycles with messages recurring at the predefined maximum time intervals (col. 15, lines 60 to col. 16, line 49).

Art Unit: 2456

As per claim 3, Trompower teaches the method as claimed in claim 2, wherein a user having a logic mastership in a network using an access procedure based on the master-slave principle is the user which initiates the test cycles (col. 15, lines 60 to col. 16, line 44).

As per claim 4, Trompower teaches the method as claimed in claim 1, further comprising: sending, from each of the base stations, at least one test signal during a test cycle on the communication channel assigned to the respective base station; setting, within each of the radio-coupled users, all the communication channels for reception of the test signals during the test cycle; and retaining, within each respective radio-coupled user, a communication channel with the best transmission properties for the transmission of data after the test cycle (col. 15, lines 60-67 to col. 16, line 5 col. 34, lines 3-43).

As per claim 5, Trompower teaches the method as claimed in claim 1, wherein the base stations each successively transmit the test signals on the different communication channels during a test cycle, and no two base stations simultaneously transmit on the same communication channel (col. 15, lines 60-67 to col. 16, line 5 col. 34, lines 3-43).

As per claim 6, Trompower teaches the method as claimed in claim 5, further comprising: receiving, within the radio-coupled users, the test signals during

Art Unit: 2456

the test cycle on a communication channel that is fixed for the duration of the test cycle (col. 15, lines 25-67 and col. 16, lines 18-49); and determining which base station corresponds to the test signal on the communication channel received with the best transmission properties (col. 15, lines 60-67 to col. 16, line 5 and col. 34, lines 17-43); retaining, within each respective radio-coupled user, the respective communication channel of the determined base station as the one with the best transmission properties for the transmission of data after the test cycle (col. 15, lines 60-67 to col. 16, line 5 and col. 34, lines 17-43).

As per claims 8 and 12, Trompower teaches a communication system comprising: a communication link operable to carry communication signals; a plurality of base stations each corresponding to a respective cell and each connected to said communication link, each base station being operable to transmit test signals in each of a plurality of different channels (see fig. 3, cells 162, base stations 154 and 156 connected to medium 152); a plurality of user devices each operable to receive the test signals in each channel from each base station, said user devices each comprising a channel determiner operable to determine a channel corresponding to a test signal with the strongest signal level and a switch device operable to switch an interface of the user device to the determined channel (see fig. 3, mobile terminals 166 communicating base stations 154 and 156; col. 15, lines 60-67 to col. 16, line 5 and col. 34, lines 17-43. See also col. 29, line 32-46).

Art Unit: 2456

As per claim 11, Trompower teaches the mobile user device as claimed in claim 10, wherein no two test messages corresponding to the same communication channel are transmitted at the same time (col. 15, lines 2-59 and col. 16, lines 18-49)

As per claim 13, Trompower teaches the mobile user device as claimed in claim 10, wherein all of the test messages are transmitted during a test cycle having a fixed predetermined duration and wherein the test cycle is initiated by an initiation message generated by a master device connected to each base station through a communication link (col. 15, lines 60-67 to col. 16, line 5 col. 34, lines 3-43. see fig. 3).

As per claim 14, Trompower teaches the mobile user device as claimed in claim 12, wherein communication between the user device and at least two base stations is switched from one of the base stations to another of the base stations based on the channel selection made by the user device (col. 13, lines 47-66 and col. 34 lines 17-43. see also col. 29, line 32-46).

claims 9 and 17 and rejected under 35 U.S.C. 103(a) as being unpatentable over Trompower et al US Patent Number (6088591) and Fischel in view of Brueckner et al USPN (20020024929), hereinafter "Brueckner".

Art Unit: 2456

Regarding claims 9 and 17, although Trompower and Fischel show substantial features of the claimed invention, they do not explicitly show where the communication link is a PROFIBUS communication link.

Nonetheless, this feature is well known in the art and would have been an obvious modification of the system disclosed by Trompower and Fischel, as evidenced by Brueckner USPN. (20020024929).

In analogous art, Brueckner whose invention is about Network and coupling device for connecting two segments in a network discloses a PROFIBUS communication supporting link (0019). Giving the teaching of Brueckner, a person of ordinary skill in the art would have readily recognized the desirability and the advantage of modifying Trompower and Fischel by employing the system of Brueckner in order to provide a monitoring mechanism that is particularly advantageous in detecting errors in received messages.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trompower and Fischel.

Regarding claims 15 and 16, although Trompower and Fischel show substantial features of the claimed invention transmitting test signals and what time intervals to be transmitted, Trompower and Fischel do not explicitly show inserting text cycles in equidistant cycles. Nonetheless, inserting text

Art Unit: 2456

cycles in equidistant cycles is a matter of design choice. It would have been obvious to a person of ordinary skill in the art at the time of the invention to include the ability of inserting text cycles in equidistant cycles in Trompower and Fischel invention so that test signal pattern are transmitted or processed at an equidistant cycles to evaluate communication channel performance.

Regarding the transmission of real-time critical data and non real-time critical data in specified time intervals (equidistant cycles), It would have been obvious to a person of ordinary skill in the art at the time of the invention to transmit real-time critical data specified time interval a head of the non real-time critical data in order to process real-time critical data at communication channel with the best quality of performance.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yasin Barqadle whose telephone number is 571-272-3947. The examiner can normally be reached on 9:00 AM to 5:30 PM.

Art Unit: 2456

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yasin M Barqadle/
Primary Examiner, Art Unit 2456